

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact: liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

(Concentrations are in mass fractions, in mg/kg, unless noted as %)

SRM	Description	Unit of Issue	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Bromine	Cadmium	Calcium	Carbon (total)	Carbon (element)	Carbon (organic)	Cerium	Cesium	Chlorine
1646a	Estuarine Sediment	70 g	2.297 %	(0.3)	6.23	(210)	(< 1)			0.148	0.519 %				(34)		
1648a	Urban Particulate Matter	2 g	3.43 %	45.4	115.5			161	502	73.7	5.84 %	(12.7)	(10.5 %)	(2.3 %)	54.6	3.4	4543
1944	New York/New Jersey Waterway Sediment	50 g	5.33%	(5)	18.9		1.6		86	8.8	1.0 %				(65)	3.0	1.4 %
2586	Trace Elements in Soil (contains lead from paint)	55 g	6.652%		8.7	413	(1.4)			2.71	2.218 %				58		
2587	Trace Elements in Soil (contains lead from paint)	55 g	5.86 %		13.7	568	(9.2)			1.92	0.927 %				(57)		
2701	Hexavalent Chromium in Contaminated Soil (High Level)	75 g	5.05 %								7.47 %						
2702	Inorganics in Marine Sediment	50 g	8.41 %	5.60	45.3	397.4	(3.0)			0.817	0.343 %	(3.36 %)		(3.27 %)	123.4	(7.1)	
2703	Sediment for Solid Sampling (Small, Sample) Analytical Techniques	5 g	8.33 %	5.62	45.5	416				0.811	(0.31%)				125.5	(7.7)	
2709a	San Joaquin Soil	50 g	7.37 %	1.55	10.5	979		(74)		0.371	1.91 %				42	5.0	
2710a	Montana I Soil	50 g	5.95 %	52.5	0.154%	792		(20)		12.3	0.964 %				(60)	8.25	
2711a	Montana II Soil	50 g	6.72 %	23.8 %	107	730		(50)		54.1	2.42 %				(70)	6.7	
2780	Hard Rock Mine Waste	50 g	8.87 %	(160)	48.8	993				12.10	0.195 %				(64)	(13)	
2781	Domestic Sludge	40 g	1.6 %		7.82					12.78	3.9 %						
2782	Industrial Sludge	70 g	1.37 %	(2.0)	166	254				4.17	0.67 %	(2.1 %)			1240		
8704	Buffalo River Sediment	50 g	6.10 %	3.07	(17)	413				2.94	2.641 %	3.351 %			66.5	5.83	

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact:liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact: liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

(Concentrations are in mass fractions, in mg/kg, unless noted as %)																	
SRM	Description	Unit of Issue	Chromium	Cobalt	Copper	Dysprosium	Erbium	Europium	Gadolinium	Gallium	Gold	Hafnium	Hexavalent Cr	Holmium	Indium	Iron (total)	Lanthanum
1646a	Estuarine Sediment	70 g	40.9	(5)	10.01				(5)						2.008 %	(17)	
1648a	Urban Particulate Matter	2 g	402	17.93	610							(5.2)			3.92 %	39	
1944	New York/New Jersey Waterway Sediment	50 g	266	14	380			(1.3)				(0.10)			3.53 %	(39)	
2586	Trace Elements in Soil (contains lead from paint)	55 g	301	(35)	(81)	(5.4)	(3.3)	(1.5)	(5.8)	(14)			(1.1)		5.161 %	29.7	
2587	Trace Elements in Soil (contains lead from paint)	55 g	92	(14)	(160)					(13)					2.813 %	(29)	
2701	Hexavalent Chromium in Contaminated Soil (High Level)	75 g	4.26 %										551.2		23.73 %		
2702	Inorganics in Marine Sediment	50 g	352	27.76	117.7				24.3		(12.6)				7.91 %	73.5	
2703	Sediment for Solid Sampling (Small, Sample) Analytical Techniques	5 g		27.70	(120)						(11.8)				7.38 %	75.9	
2709a	San Joaquin Soil	50 g	130	12	33.9	(3)		0.83	3.0		(4)				3.36 %	21.7	
2710a	Montana I Soil	50 g	23	5.99	0.342%	(3)		0.82	3.0	(0.2)	(7)		(7)		4.32 %	30.6	
2711a	Montana II Soil	50 g	52.3	9.89	140	(5)		1.1	(5)			9.2		(1)	2.82 %	38	
2780	Hard Rock Mine Waste	50 g	(44)	(2.2)	215.5				(26)	(0.18)	(4.4)		(0.84)		2.784 %	(38)	
2781	Domestic Sludge	40 g	202		627.4										2.8 %		
2782	Industrial Sludge	70 g	109	66.3	2594		(0.34)		35	(2.2)	(0.77)			238	26.9 %	58.1	
8704	Buffalo River Sediment	50 g	121.9	13.57				1.31				8.4			3.97 %		

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact:liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

=====

Rubidium

(38)

51.0

75

=====

127.7

130

(99)

117

120

(175)

(23)

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact: liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

(Concentrations are in mass fractions, in mg/kg, unless noted as %)																
SRM	Description	Unit of Issue	Lead	Lithium	Lutetium	Magnesium	Manganese	Mercury	Molybdenum	Neodymium	Nickel	Niobium	Nitrogen	Phosphorus	Potassium	Praseodymium
1646a	Estuarine Sediment	70 g	11.7	(18)		0.388 %	234.5	(0.04)	(1.8)	(15)	(23)			0.027 %	0.864 %	
1648a	Urban Particulate Matter	2 g	0.655 %			0.813 %	790				81.1				1.056 %	
1944	New York/New Jersey Waterway Sediment	50 g	330			(1.0 %)	505	3.4			76.1				1.6 %	
2586	Trace Elements in Soil (contains lead from paint)	55 g	432	(25)		1.707 %	1000	0.367		26.4	(75)	(6)	1001	0.976 %	(7.3)	
2587	Trace Elements in Soil (contains lead from paint)	55 g	3242	(32)		0.669 %	651	0.290		(25)	(36)	(14)	970	1.583 %		
2701	Hexavalent Chromium in Contaminated Soil (High Level)	75 g				7.47 %	0.2137 %								0.174 %	
2702	Inorganics in Marine Sediment	50 g	132.8	(78.2)		0.990 %	1757	0.4474	10.8	(56)	75.4	(63)	0.1552 %	2.054 %		
2703	Sediment for Solid Sampling (Small, Sample) Analytical Techniques	5 g	130			(1.0 %)	1734	0.474	(11)*	(72)	(75)*	(63)*	(0.16 %)*	2.08 %		
2709a	San Joaquin Soil	50 g	17.3	(0.3)		1.46 %	529	0.9		(17)	85		0.0688 %	2.11 %		
2710a	Montana I Soil	50 g	0.552%		0.31	0.734 %	0.214 %	9.88		22	8		0.105 %	2.17 %		
2711a	Montana II Soil	50 g	0.140 %		(0.5)	1.07 %	675	7.42		29	21.7		842	2.53 %		
2780	Hard Rock Mine Waste	50 g	0.577 %	(18)		0.533 %	462	0.710	(11)	(28)	(12)	(18)	427	3.38 %		
2781	Domestic Sludge	40 g	202.1			0.59 %		3.64	46.7		80.2		4.78 %	2.42 %	0.49 %	
2782	Industrial Sludge	70 g	574	(5.0)		0.26 %	(300)	1.10	10.07		154.1			0.50 %	0.32 %	
8704	Buffalo River Sediment	50 g	150			1.200 %	544				42.9				2.001 %	

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.

111.7 - Soils, Sediments, and Sludges (powder form)

Technical Contact: liz.mackey@nist.gov

Technical Contact for SRM 2701: stephen.long@nist.gov

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

(Concentrations are in mass fractions, in mg/kg, unless noted as %)																		
SRM	Description	Unit of Issue	Samarium	Scandium	Selenium	Silicon	Silver	Sodium	Strontium	Sulfur	Tantalum	Tellurium	Terbium	Thallium	Thorium	Thulium	Titanium	
1646a	Estuarine Sediment	70 g	(5)	0.193	40.0 %	(0.741 %	(68)	0.352 %				(< 0.5)	(5.8)	0.456 %			
1648a	Urban Particulate Matter	2 g	4.3	(6 to 120)	28.4	12.8 %	6.0	4240	215	5.51 %				(7 to 107)	4021			
1944	New York/New Jersey Waterway Sediment	50 g		10.2	1.4	31 %	6.4	1.9 %					0.59	(13)	42	4300		
2586	Trace Elements in Soil (contains lead from paint)	55 g	(6.1)	(24)	(0.6)	29.15 %		0.468 %	84.1				(0.9)	(7)	(0.5)	0.605 %		
2587	Trace Elements in Soil (contains lead from paint)	55 g		(11)		33.13 %		1.127 %	126					(7.5)		3920		
2701	Hexavalent Chromium in Contaminated Soil (High Level)	75 g				4.17 %		0.255 %								0.547 %		
2702	Inorganics in Marine Sediment	50 g	(10.8)	25.9	4.95		0.622	0.681 %	119.7	(1.5 %)			0.8267	20.51	31.6	0.884 %		
2703	Sediment for Solid Sampling (Small, Sample) Analytical Techniques	5 g	(10.8)	25.95	(4.9)*		(0.59)	0.693 %	118				(0.83)*	20.22	(32)*	0.880 %		
2709a	San Joaquin Soil	50 g	(4)	11.1	(1.5)	30.3 %		1.22 %	239	(0.7)			(0.5)	0.58	10.9	0.336 %		
2710a	Montana I Soil	50 g	4	9.9	(1)	31.1 %	(40)	0.894 %	255	(0.9)			(0.5)	1.52	18.1	0.311 %		
2711a	Montana II Soil	50 g	5.93	8.5	(2)	31.4 %	(6)	1.20 %	242	(1)			(0.8)	(3)	15	0.317 %		
2780	Hard Rock Mine Waste	50 g		(23)	(5)	(31 %)	(27)	0.221 %	217	1.263 %			(5)	(0.58)	(5)	(12)	(0.4)	0.699 %
2781	Domestic Sludge	40 g				16.0	(5.1 %)	98	0.21 %								0.32 %	
2782	Industrial Sludge	70 g	(1.3)	(3.4)	0.44	(20.3 %)	30.6	1.30 %		(0.2 %)	(0.73)		(0.48)		(2.4)		880	
8704	Buffalo River Sediment	50 g		11.26				0.553 %						9.07		0.457 %		

Values in parentheses are given for information only.

* Determination made in parent material (SRM 2702)

** These SRMs also have noncertified leach data. The leach data for SRMs 2709, 2710, and 2711 are based on EPA Method 3050; the leach data for SRM 2781 and 2782 are based on EPA Methods 3050 and 3051.